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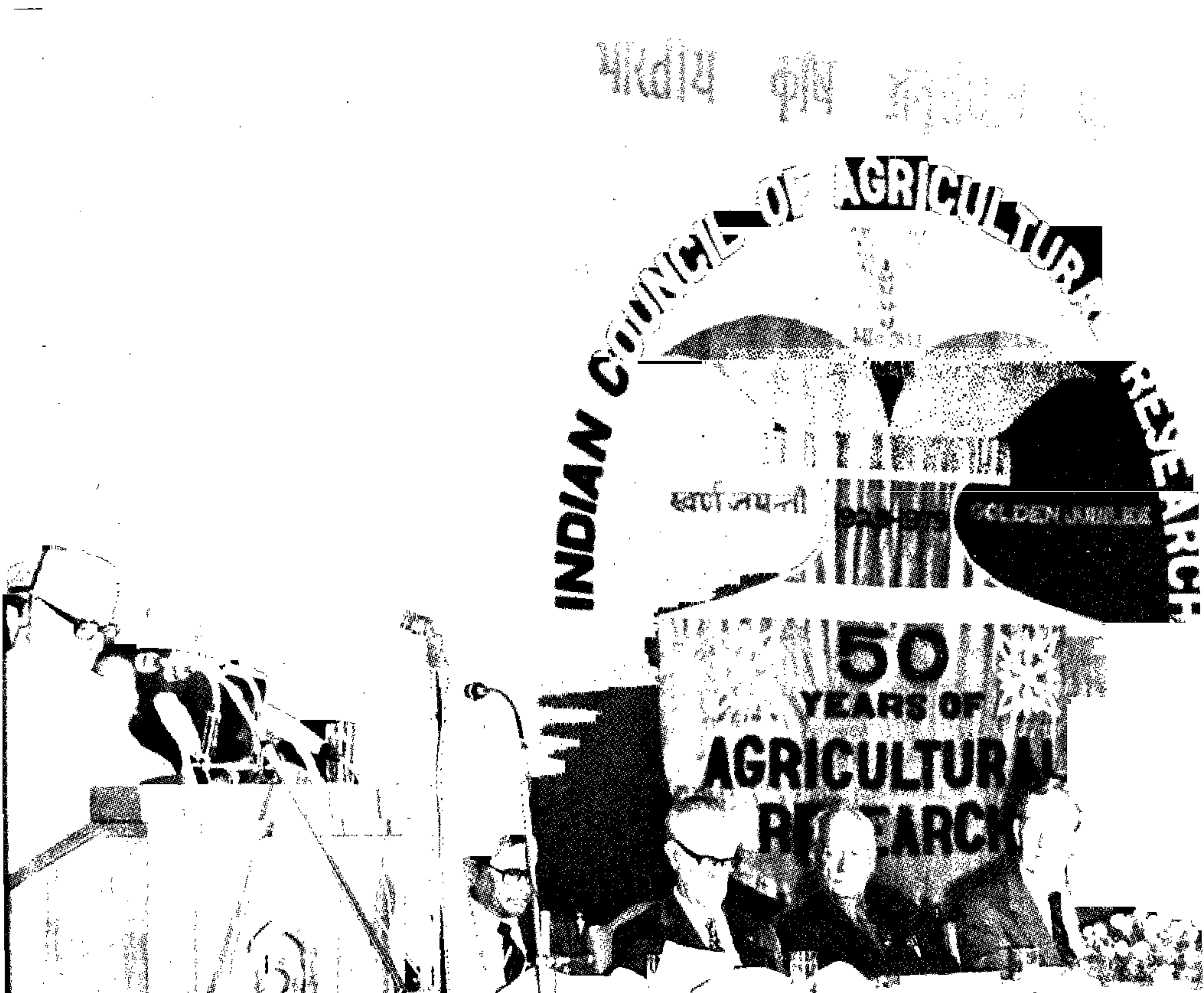
FORTNIGHTLY CHRONICLE OF HIGHER EDUCATION & RESEARCH SEPTEMBER 15, 1979


INDIAN COUNCIL OF AGRICULTURAL RESEARCH
GOLDEN JUBILEE
50 YEARS OF AGRICULTURAL RESEARCH

President N. Sanjiva Reddy inaugurating the Golden Jubilee Symposium of the Indian Council of Agricultural Research held recently in New Delhi.

HARYANA AGRICULTURAL UNIVERSITY, HISSAR

Admission Notice

Applications are invited for admission to the following disciplines of M.Sc. & Ph.D programmes for the Academic Session 979-80 commencing from 9th November 1979. The last date for *receipt of applications* in the Registrar's office (through proper channel in the case of inservice candidates) is **29.9.79** No days of grace will be allowed The eligible candidates should present themselves for interview at 10.00 a m. on the dates noted against each programme below in the committee room of the College concerned No separate interview letters will be issued.

Disciplines for M.Sc.	**Date of Interview**
College of Basic Science & Humanities	
Zoology Rural Sociology and Botany	**15-10-1979.**

Minimum qualification for M.Sc. programme

Graduates of HAU or other Agri*cultural University with equivalent pro*gramme of work and equivalent duration of period of training with a grade point average of 2.75 (4.00 basis) and above In case of HAU graduate relaxation upto 2.50/4.00 will be permissible)

b) *B.Sc./B.Sc. (Hons.)* Ag./B.V.Sc. & A.H. from other universities with 6 % marks or above

For Inservice Candidates

50% marks or a grade point average of 2.50 (4.00 basis) in B.Sc. Ag./B.Sc. (Hons.) Ag./B.V.Sc. & A.H./B.Sc./B.Sc. (Hons.) Animal Science or equivalent with at least 3 years experience of teaching/*research/extension* education in the department of Agriculture or Animal Husbandry of Haryana State and/or HAU, other agricultural university/teachers from colleges affiliated to *M D.* University, Rohtak or Kurukshetra University, Kurukshetra

Disciplines for Ph D	**Date of interview**	**Minimum qualifications**
College of Agriculture		
Agril. Economics, Agronomy, Entomology, Horticulture, Plant Breeding, Plant Pathology, Vegetable Crops and Soil Science	16-10-79	a) **For Inservice Candidates** *(Employees of the Haryana* Agricultural University or of Haryana Govt. or teachers from colleges affiliated to M.D. University, Rohtak or Kurukshetra University, Kurukshetra, not under bond with atleast 3 *years service in their respective* departments after Master's programme) 55% marks or a grade point average of 3.2 (4.00 basis) at *Master's level and* 50% marks or a grade point average of 2.50 (4.00 basis) at the Bachelor's level.
College of Basic Science & Humanities		
Genetics, Biochemistry and Microbiology	*17-10-79*	
College of Vety. Sciences		
Vety. Surgery, Gynaecology & Obst. Pathology, Parasitology, Medicine, Physiology, Bacteriology & Hygiene, Anatomy & *Public Health.*	18-10-79	
College of Animal Sciences		**b) For others**
Livestock Production & Management, Animal Nutrition, *Animal Breeding and* Animal Production Physiology.	19-10-79	60% marks or a grade point average of 3.4 (4.00 basis) at the Master's level in the subject concerned and 60% marks *or a grade point average of* 2.75 (4.00 basis) at the Bachelor's level.

How to Apply

Prospectus alogwith admission form is obtainable from the Asstt. Registrar *(Acad.), Haryana Agricultural Univer*sity, Hissar by sending a crossed Indian Postal Order for Rs. /- payable to the Asstt. Registrar(R), HAU, Hissar at HAU Post Office, Hissar.

Fellowship & Stipends

Available on the basis of merit and on fulfilment of prescribed conditions.

Note

(i) *All candidates are expected to* bring original certificates etc. on the date of interview, failing which they may be refused admission.

(ii) List of selected candidates will be exhibited on th November and they will get themselves registered latest by 9th November, 1979. No *separate intimation will be sent.*

Vinay Kumar
REGISTRAR

PANJAB UNIVERSITY CHANDIGARH

Advertisement No. 17/79

Applications are invited for the following posts so as to reach the *Registrar, Panjab University,* Chandigarh, alongwith postal order for Rs. 10/- by **6.10.1979** Fourteen days extra time is permissible to the persons who have to submit their applications from abroad.

Post, Scale of Pay and Qualifications

Lecturers—3 (Grade: Rs. 700-40-1100-50-1600)

Punjabi—1, Sanskrit—1 and Political *Science—1*

(Directorate of Correspondence Courses)

Qualifications

(i) A consistently good academic record with at least 1st or high second class i.e. 55% marks or more (B in the seven point scale) at the Master degree in a relevant subject or an *equivalent* degree of a foreign University. The consistently good academic record at Pre-Master's level would be interpreted as an average of 50% or above at two examinations prior to Master's examination.

(ii) An M.Phil. degree or a recognised degree beyond the Master's level or *published* work *indicating the* capacity of a candidate for independent research work.

Desirable

Candidate must have proficiency in Hindi and Punjabi.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of a very high standard, it may relax any of the qualifications prescribed in *(i)* above

Provided further that if a candidate possessing the qualifications as at (ii) *above is not available or not considered* suitable, the University on the recommendation of the Selection Committee may appoint a person possessing a consistently good academic record on the condition that he will have to obtain an M.Phil degree or a recognis*ed degree beyond the Master's level* within five years of his appointment failing which he will not be able to earn future increments till he obtains that degree or gives evidence of equivalent published work of high standard.

Persons already in service should route their *applications through* proper channel. Incomplete forms and those received after the due date will not be entertained. Serving employees, may however, send their applications on prescribed proforma, direct to the University They may route another copy *through their* Department. *They* will be allowed to present themselves for interview only on the production of 'No Objection Certificate' from the employers. Canvassing in any form will disqualify the candidate.

Application forms can be obtained from the Cashier, Panjab University, Chandigarh, personally on payment of Rs. 2/- *or by making a written request* to the Finance & Development Officer, Panjab University, Chandigarh, accompanied by self-addressed stamped envelope of 23 x 10 cms. and a postal order for Rs. 2/- drawn in favour of the Registrar, Panjab University, Chandigarh.

UNIVERSITY NEWS

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Hony. Editor : ANJNI KUMAR

Towards a Meaningful Teacher-Student System

P.V. Ramamurti

With the contemporary society in a flux the teachers and students are vulnerably exposed to stresses and strains. The climate on the campuses is one of frequent recourse to violence as a means to redress grievances. Self-restraint, sobriety, decency and decorum are not very much in evidence. Political and regional affiliations divide the student community during times of campus trouble. The teachers too. though avowedly above these influences are caught in the cross-fire.

There has been a decline in parental control over children. The first generation student with his parents uneducated suffers from a parental incapacity to understand the problems of modern collegiate education. The large number of freeships and scholarships have to some extent given the student a sense of financial security and independence from the punitive arm of the parent. With overcrowding in educational institutions and stay of a large number of students in hostels safely away from any kind of parental supervision, the students community enjoys lesser restraint on its behaviour.

In the school or college, the teacher, who takes on the role of a father is not able to provide the paternal touch. He becomes an object of ridicule if he is amiable or becomes the target of collective confrontation if he chooses to enforce discipline. The training of the collegiate or university teacher—if there be such a thing—hardly equips him to handle the contingencies that obtain in the contemporary classroom or campus situation. In the result the students neither come under the care and kindness of the home nor the discipline and dedication of a teacher to smoothen his angularities.

It is in the light of the prevailing situation that proper training to the college and university teachers has to be thought of. It could be a short-term in-service course covering a manageable content. It should primarily provide guidelines in teaching methods at the undergraduate and post-graduate levels and more particularly in developing appropriate student-teacher relationship and methods of resolving student problems.

The teacher has also to do some introspection to understand the problems challenging him and the adequacy of his approach, so that proper strategies can be evolved. The task cannot be taken up by single teachers. The teaching fraternity has to act as a corporate body. The teachers could organise themselves into associations at the institutional level and the system can be expanded to make a sort of multitier structure. In many places such organisational set-up already exists, but they are at different

(Contd. on page 477)

Reader in Psychology, Sri Venkateswara University.

Computerised Bibliographical Information Handling: Status and Modern Trends

M. K. Dhirendra Rao*

Introduction

With the Information boom in full swing the Infocrats gave second thought to better means of managing the ever-growing information data. Today it has been found convenient to begin the literature search by first referring to a list of references on the topic of interest. Hence the bibliographical aids like abstracting and indexing services have become the principal access tools to world resources of information. But it was soon realised that in order to cope with the growing information the storage and retrieval methods must be such that they can keep pace with this torrent of information flow. Computer is the only device to manage this work because of its high speed processing capability of large amount of information.

While on the one hand the size of the information base is growing, on the other information has been accorded the status of vital resource. Obviously, there is growing emphasis and need for cooperation and sharing of information systems, services and sources at national and international levels. This led to developing powerful techniques to move information from one point to another to satisfy the increasing bibliographical information needs. Telecommunication linked computer Networks has been found the best method to provide convenient and timely access to remote bibliographical information.

Impact of Computer and Telecommunication Technologies on Bibliographical Information Handling

The commendable developments in the fields of computer technology, telecommunication including satellite communication, micrographics, photocomposition etc. are now promising methods of handling the vast amount of bibliographic information of documents. The advent of electronic computer has certainly provided a new dimension for bibliographical information storage, processing, retrieval and dissemination, the beginning of which is represented by the establishment of data bases in machine readable form. There are more than 200 computerised data bases in existence today. These machine-readable bibliographic data bases can be utilized to provide both current awareness service and retrospective literature search.

Developments in computer science and telecommunication technology has made the long distance on-line real-time information retrieval possible. For example, National Library of Medicine (NLM) located in the USA holds a number of bibliographic data bases which can be accessed on-line by users through terminals located at distant centres.

Another area where considerable work is going on is the development of adequate Telecommunication Networks for transmission of bibliographic information.

Computer-Based Bibliographical Information Handling System—Merits and Demerits

Timely information being a vital factor in its usage, users can have speedy-access to machine-readable data bases, as magnetic tapes are released much before the release of printed version. Data bases like INSPEC of the Institution of Electrical Engineers, London, even provides abstracts. But, it is argued that it takes about three months to import the magnetic tape and the information given is about six months old.

Machine-readable data bases extend coverage to periferal and obscure publications. Moreover, the retrieval efficiency is sought to be improved by means of greater depth of indexing than in printed version. For example, Index Medicus produced from MEDLARS data base contains only five index entries per record covered in it, whereas the MEDLARS data base has the provision of giving about forty index entries for the same record.

Currently the most significant contribution of machine-readable data base is as searchable files in Selective Dissemination of Information (SDI). Experience shows that there are both advantages as well as difficulties in utilizing computer for SDI service. Recall of information is undoubtedly good. But, relevance is heavily dependent on efficient system of profile writing, feedback, systems limitations etc. The precision figure is dependent on the data base used and the users interest.

As compared to Manual SDI service, Computerised SDI service is preferable when the user group is large. Manual system cannot achieve the speed and coverage of computer-based SDI service. But, in the Computerised SDI service the time taken for the preparatory activities is much more than manual system.

In the Indian context the greatest factor in utilizing machine-readable bibliographic data base is its cost and the need for a compatible computer to process it.

Some Recent Advances in Information Technology and its Impact on Bibliographic Information Transfer System.

Developments in recent times in information technology have made possible computer controlled photo composition system for publication of bibliographical information. Moreover, its by-product, the bibliographic data base can be utilized to provide current awareness service and retrospective bibliographic search.

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*National Physical Laboratory, New Delhi.

Technological progress in computers and telecommunication has resulted in many new applications involving combination of voice, data and display. In a number of countries, modified video-phone terminals have been used for face to face conference, and document transmission. It has been predicted that the visual display unit would have considerable impact on the transfer of bibliographical information. Some of the visual display units provided with keyboards are used in the information world as interactive terminals with a computer. Terminal devices such as light pencil/pen containing photosensitive cells are also coming into extensive use.

Advances in the field of information technology has made it possible to develop sophisticated transmission systems. In the recent past, optical fibre cable has been developed and used to transmit information in digital form. A single glass fibre, of 20 microns diameter, can transmit 1×10^9 bits/second. It is believed that by 1990 a cable of such glass fibre could be used commercially to transmit bibliographical information from one place to another.

Two recent developments in the transmission systems are fascimile and videophone. Fascimile telegram requires 15-20 minutes to transmit a document over a telephone line. The ultrafast fascimile needs only 2-3 seconds for the transmission of document 21×29 cm in size. Videophone operates in realtime which means that within 1/25 of a second both voice and image are transmitted.

Advances in communication technology has led to the development of specialized information transfer and communication systems, which are more user-oriented. These systems are expected to be designed for an on-line inter-active mode of operation with the user in mind, rather than an information specialist. Futute on-line systems would be oriented towards natural language rather than controlled vocabularies and would require much less effort on the part of the user. It is envisaged that the systems would include facilities for error compensation, audio-video-display and touch panel devices. Another future possibility is the use of domestic T.V. receiver, in home or office, as terminals that can be used to query remote bibliographic data bases. It is also likely that one will see increased emphasis in the future on the systems that will provide on-line support to personal files.

Present Status in India

Since past two decades India has become active in harnessing electronic computer for bibliographical information processing and services. Some of the organisations which are known to be doing some useful work in computerised information handling are : Indian National Scientific Documentation Centre (INSDOC), Delhi ; Indian Institute of Technology (IIT), Madras; National Information Centre, Delhi; Documentation Research and Training Centre (DRTC), Bangalore; Bhabha Atomic Research Centre (BARC), Bombay; and Tata Institute of Fundamental Research (TIFR). The National Information System for Science and Technology (NISSAT) programme has promising scheme of acquiring latest bibliographic data bases in all areas in the form of magnetic tapes which can be used for current awareness (SDI) cum retrospective search.

India's Participation in the International Information Systems

India has been participating in the International Nuclear Information System (INIS) right from the beginning of its inception, May 1970. Bhabha Atomic Research Centre (BARC) Bombay, is the national inputting centre for the INIS. INIS lays strong emphasis on the maximum possible computerisation for bibliographical information handling in a highly decentralised set-up for both input control and retrieval operations.

Indian Council of Agricultural Research (ICAR), Delhi, is the national inputting centre for both the Food and Agricultural Organisation (FAO) projects, viz., International Information System for Agricultural Sciences and Technology (AGRIS) and Current Agricultural Research Information System (CARIS).

Computer-Based National SDI Service Using Commercial Data Bases

Under the UNISIST Programme, the Canadian Government offered to assist Unesco member states who wish to establish a computer-based national SDI system along the lines of CAN/SDI Software. Based on this offer, an experimental project using CAN/SDI software and CA CONDENSATES data base was carreid out at IIT, Madras using IBM 370/155 computer during 1975-76. The project was supported by UNESCO/UNISIST. The CHEM/SDI service is now being continued by INSDOC under the NISSAT programme. The scope of the service has been enhanced by including INSPEC A & B data bases and by increasing the number of user profiles to about 400. More data bases such as COMPENDEX, Biological Abstracts, USGRA etc are planned to be added in future.

On-Line Access to Foreign Bibliographic Data Bases

In order to demonstrate the possibility of introducing on-line interactive information retrieval systems using computer and telecommunication facilities in the developing countries, UNESCO/UNISIST sponsered in India, in September 1976, a project viz., "ESRIN/RECON On-Line Demonstration project-linking to world sources of information". It was organised by the Department of Science and Technology (DST), Overseas Communication Services (OCS), TIFR, BARC and INSDOC. Use of the satellite communication link between Bombay and Rome was made for the demonstration. A special telecommunication link to carry data transmission at 4800 bps was laid between OCS building, Bombay and TIFR for the project, by the P & T Department. Five terminals were set up at TIFR, Bombay linking the ESRIN computer. Of these, two terminals were provided with video screens and high speed on-line printers, while three of them were mere 'dial-up'

(*Continued on page 492*)

Humanities in Technological Institutes

S. M.Chanda*

The Humanities as an academic discipline is yet to receive proper recognition in our technological institutes. Not that it has been kept out of their curricula altogether. A total rejection of the thing, however unfortunate, would have been understandable, but what baffles one is that by and large all our technological institutes are guilty of a kind of ambivalence towards it. In their official handouts and bulletins intended to impress upon the public their claim that they appreciate the element of liberal education, they speak of having included the Humanities in their teaching programmes, but in practice they do little to strengthen it. Not much time is allotted to it in the time-table and hardly any scope, in terms of funds, equipment and books, is provided for new experiments in the teaching of these subjects. The result is that it is there but only as a kind of window-dressing. It is more of appearance than reality.

This lukewarm support to the Humanities on the part of the authorities of an engineering college, apparently harmless, produces adverse effects on its students, making them dubious about its relevance or importance. Students notice the authorities indifference to the Humanities and take their cue from it.

It is time our educational planners, particularly those who frame policies for our technological institutes, made a serious study of the problem. If they want the Humanities to be seriously taken and to be useful, they should take steps to create a congenial climate for it. Let there be an end to the present attitude of half-heartedness.

A point of interest noticed in this connexion is that though our planners do not show much enthusiasm for the subjects constituting the Humanities the students for whom they are intended are not generally averse to them. One often hears engineering students regretting that they are not provided with opportunities to cultivate the liberal arts. It is because they starve in this respect in class-rooms that they attach great importance to cultural functions, such as dramatics, debates and elocution contests, held on their campuses.

I am not of the view that the purpose of the Humanities can be brought home to students only through formal syllabuses and orthodox class-room teaching. Far from it. The Humanities can be really beneficial only if it helps to develop in our young people a taste for and an intelligent interest in certain matters such as literature, history, music and such other subjects as stimulate imagination. Its object should be, not to transmit facts and data, but to foster an attitude of catholicity and adaptability. It is, briefly, a search for meaning and value in life and this has to be a perpetual search. The task of the Humanities teacher is to incline his students to such a mood for exploration.

Our educational planners' concept of the role of the Humanities in an engineering institute has undergone a tremendous change in recent years. In the fifties it was believed that liberal education was necessary for engineers so as to save them from the evils of excessive specialisation. It was then argued by India's Education Ministry that our budding engineers were expected to be not only competent technologists but also good citizens with a healthy interest in other fields of life; the accent then was on 'the whole man'. Now the emphasis is laid entirely on the utilitarain aspect of education, recommending for students only those subjects which are of benefit to them in their professional life. Now the raison d'etre of a subject is not what it contributes to the building up of one's personality, to his efflorescence as man, but its usefulness in his bread-earning activity. It is a rejection of the basic philosophy which led to its introduction in our curricula.

It is necessary for our planners to realise that an engineer's professional life cannot be altogether divorced from the stream of life on the social plane, that even while engaged in his specialised work he has to be part and parcel of a large society involved in manifold activity. His professional work and the social well-being of the people around him are not altogether disconnected. He cannot and does not like to live in isolation. He tries instinctively to live in harmony with the other members of society, with people having widely different tastes and interests. If he is happy on the social plane, happiness springing from a sense of adjustment to others, it is possible for him to concentrate his full attention on his professional work. There is a close connexion between one's life as a social being and his professional competence. Happiness as a social being depends in a large measure on a person's ability to get on with others, on his ability to appreciate, even while not sharing, others' intellectual interests. It is here that the Humanities exercises a wholesome influence; it makes one expansive, inquisitive about others' tastes and predilections and compassionate in outlook. Considered from this angle, the subjects constituting the Humanities—literature, history, philosophy—are not merely enjoyable but are essential ingredients of education. This explains the keen interest taken by some of the world's greatest scientists in literature, why Darwin sought consolation in in good novels, why so many great thinkers have felt, as Freud did about Dostoevsky, that before literary genious analysis lays down its arms. □

**Regional Engineering College, Durgapur.*

Student Participation in Varsity Set-up

L. S. Gandhi Doss

Participation has become the law of modern living in that it could be the contemporary fad blindly followed or even the way of living itself. But it is kindling interest in all the major arenas; from home to government and to international co-operation. The refrain of students' participation in university education has been there. The theme has frantically tried to establish itself in practice in thought, word and deed. But all efforts have been in vain. The outcome is that the universities are dominated by every other person except the students.

The universities and government have been successful in nominating a handful of students to the university senate the highest policy making body. It is unedifying to see that the voice of the five or six nominated students in this huge group of hundred other much older and better positioned members, is unheard and unsought.

That the real places for students participation are at the academic council and board of studies—the crucial bodies in the University for the advancement of educational system—has not been realised. The two bodies can be termed engineers, designing the curriculum of our universities. Would it not be better, if the students are involved in these bodies, where they may have a better say.

A good cause, is not short of hurdles, problems and limitation in its course of fruition. It would not sound very obsolete at this juncture, to remember the oriental lines "where there is a will, there is a way."

Participation of the students in the university education finds fulfilment at three different levels—the first at the Board of Studies or each subject. Each branch of study can be better examined only by the students pursuing it. A place in the Board of Studies would provide the best opportunity for students to express their interests, ideas and wants. It will also prove to be an effective instrument for implementation. But the contemporary Boards have no student representations on them. Why not accomplish the theme of student participation here? The students can be chosen in pairs with the highest percentage of marks in their previous year, thus confining the representation to the well-informed students.

The next rung of the ladder is the Academic Council, a body responsible for academic progress of every university. The inter-action of young minds from each faculty of the university with the mellowed, older, experienced and wiser minds, can produce best results. The student representatives from each faculty can be chosen in pairs through elections to seek the ideal. To be just, to all the subjects under the faculty, students could take turns to represent, every year.

Improvements in the present Senate structure are imperative. Students with good academic record, often, prove incompetent in this august body. Hence representation of students should be through open election from each of the faculties. The students' group needs better strength and representation.

The venture, so vociferously advocated, has failed in its objective. Periodical evaluation is necessary to reach the desired goal. The quest leads nowhere with initial zest and subsequent rest. May it be a continuous process with its own well formed ethics and values, for, built-in norms and ethics endure than written rules and procedures.

[*Courtesy : The Hindu*]

**Lecturer, Bangalore University.*

Towards a meaningful teacher-student system

(*Continued from page 473*)

levels—elementary school, high school and college. Though their target groups may be different yet they could integrate their activities for the common good. It is such an organised and composite approach to the problems of the profession and methods of handling and shaping the student personality, that has been absent.

The commitment of the teacher, his social accountability and his approach to the problems of educating the student community to direct its efforts in the broader sense of the term, need not be considered as purely matters of political policy. It is as much the responsibility of the teaching community to direct its efforts to tackle this troublesome situation. It would be in the interest of teachers at all levels to be seized of this problem, to chalk out for themselves a practicable code of conduct and stand by it united.

Every teacher is answerable to his employer. He should also be accountable to his organisation. Such organisations of teachers could extend to the teacher valuable help in the discharge of his responsibility. Each institutional association can itself do this and if it is beyond its purveiw and of a general nature the larger organisation can take it up.

The teacher should also get more closer to the student. A greater student-teacher contact outside the classroom, if properly envisaged can provide the student the much needed assistance and guidance. A meannigful and useful teacher-ward system would be helpful. It would instil in the student a sense of confidence and trust to look to the teacher for advice and assistance and facilitate the free discussion of any problem.

It is time the teaching community and the administration thought seriously of devising methods to cater to the all round development of students. An approach characterised by greater concern and commitment would draw the esteem and respect of the students and provide cordial teacher-taught relationship.

[*Courtesy : The Hindu*]

Need to raise farm yield stressed

The President, Shri N. Sanjiva Reddy, inaugurated the golden jubilee symposium of the Indian Council of Agricultural Research and the first global convention of the International Federation of Agricultural Research Systems for Development in New Delhi recently. In his address he stressed the need for agricultural growth to be accompanied by stability of production. Agricultural scientists and meteorologists should work together to develop technologies which could mitigate adverse impacts of aberrant weather on crop production. They should review current pattern of land use and suggest methods for improving the income and employment potential of land without detriment to its long-term potential.

Referring to the need for conservation of energy, the President said that agriculture was the largest solar energy harvesting enterprise and only countries with a dynamic farm base were likely to be economically prosperous in the 21st century. Techniques should be developed by which renewable and non-renewable forms of energy could be blended in an optimum manner. With regard to ecological problems, he said that unless the ecosystem of the entire Himalayan range were protected and restored, the future of agriculture in the Indo-Gangetic• plain would be undermined.

He wanted the scientists to pay particular attention to the upgrading of the technological skills of rural women. He appealed to the younger generation of agricultural scientists and scholars to remain close to the plants and to the farmers.

Shri Reddy said Indian farmers were hard-working and receptive to new ideas. They however needed low risk technologies as they did not have risk taking capacity or input mobilising power. He advised scientists to adopt an open-door research policy and conduct experiments on farmers' fields.

The Union Agriculture Minister, Shri Brahm Prakash outlined the contribution made by the ICAR to the agricultural development in the country. He said the emphasis should now shift to consolidation of the gains and filling up the priority gaps in research, education and extension education. He said that the most urgent task to be achieved through the agricultural sector was to raise the purchasing power of those who were below the poverty line in rural areas. Research and training should be organised to provide support to programmes in integrated rural development which aimed at generating greater opportunities for gainful employment in villages.

Dr. M.S. Swaminathan, Secretary in the Ministry of Agriculture, said that the infrastructure for agricultural research developed in this country could serve as a model for other developing countries. Some countries including the Philippines had already decided to adopt the Indian model for their national research organisations. He emphasised the need for an accelerated increase in agricultural and rural development. He said that every one per cent growth of population would need a three per cent increase in income growth for providing employment. In India a rate of growth of 7.5 per cent would be needed to maintain employment at the current level. For full employment and larger employment opportunities a higher growth rate would be needed.

About 500 Indian scientists and 60 from other parts of the world participated in the deliberations of the 5-day symposium.

CAMPUS NEWS

College development councils proposed

The National Institute of Educational Planning and Administration organised a three-day seminar on "some aspects of higher education". Prof. B. Ramachandra Rao, Vice-Chairman of the University Grants Commission, inaugurated the seminar. He said that the UGC was proposing to introduce college development councils to bridge the communication gap between college and university departments. These councils will comprise the Vice-Chancellor, professors from various departments and would provide academic and administrative advice to the college departments. Prof. Rao however regretted that in spite of financial incentives by the UGC the States were not keen to give autonomy to colleges. He pointed out that the system of affiliated colleges which was prevalent only in India had become outdated and inhibited academic development.

He said that the UGC could not afford liberal grants for the construction of more college buildings, libraries and laboratories. He asked the principals to ensure that the facilities available in their colleges were utilised to the optimum.

Mr. Mohinder Singh, Dean of Colleges of Delhi University, said that autonomous colleges would not be suitable for the country. Only well known colleges wanted to be autonomous and this would further widen the gap between them and underdeveloped colleges. The emphasis should be, he added, on raising academic standards and this could be brought about by concentration on underdeveloped colleges.

Self-employment for rural youth

Under the National Scheme of Training Rural Youth for Self-Employment, the Union Government has launched a training course to train rural youth in agriculture and allied fields. It will cover rural areas throughout the country. In each of the 5000 development blocks, at least 40 persons will be trained every year. The main thrust of the scheme would be on equipping rural youth with necessary skills and technology to enable them to seek self-employment. After the completion of the training, they will be given appropriate financial support for setting up their own enterprises.

The training courses would have a practical bias based on the concept of "Learning by Doing" and would be provided in selected trades or areas of activity which could lead to self-employment in agriculture and allied sectors, small industries and the service sector.

The training would be imparted by the existing training institutions such as the Gram Sevak Training Centres, Gram Sevika Training Centres, Krishi Vigyan Kendras, the Agricultural Universities and other Central and State organisations. The respective State Government would identify the existing training institutions and the content of the courses would be based on the specific needs of the district.

For strengthening the essential infrastructure of training institutions run by the central government and by organisations under it as well as agricultural universities, 100 per cent grant-in-aid would be paid by the Central Government. For other institutions the expenditure would be shared by the State and Central Governments on a 50 : 50 basis.

During this period the trainee would be paid a stipend of Rs. 100 per month and a sum of Rs. 50 p.m. per trainee would be paid to the institutions concerned for meeting expenses in training materials and other incidental expenses. The Central Government would also provide financial assistance for meeting non-recurring expenditure by the training institutions if additional facilities were called for by way of infrastructure.

President inaugurates silver jubilee celebrations at Sri Venkateswara Varsity

The President, Shri N. Sanjiva Reddy, inaugurated the silver jubilee celebrations of the Sri Venkateswara University at Tirupati recently. In his address, the President regretted that there was no respect for moral values. Great men like Gandhi had made men out of dust, he said.

The State Governor, Shri K.C. Abraham presided over the function. He referred to the good work of the university and said that Universities must strive to inject moral values among students and produce men of high calibre. Universities should give scope for the students to read and develop on correct lines.

The Chief Minister, Dr. Channa Reddy said that the Sri Venkateswara University had come into existence due to tireless efforts of the then Chief Minister of Andhra Pradesh. He made a plea for re-establishing values in national life. He said colleges were growing as the aspirations of the people were growing.

The Vice-Chancellor of the University, Dr. M. Santappa welcomed the President and the other guests at the function and said that it was their earnest desire to see that the university adapted itself to the changing circumstances and needs of the country. The university had taken up a three-pronged programme of consolidation of existing faculties, expanding facilities to engineering colleges at the district level and starting more facilities for technological courses. He said that the university had been conscious of rapid developments in various fields.

Osmania organises orientation course for liaison officers

The Employment and Information Guidance Bureau of the Osmania University organised at Hyderabad a two-day seminar-cum-orientation course for liaison officers of colleges. Inaugurating the course the Vice-Chancellor of the University, Prof. G. Ram Reddy, asked the employment agencies to identify areas where trained manpower was not available so that universities could fill the gap. He was of the opinion that the universities should be informed about the job market to plan their courses to suit the needs of the community. He stressed the need for guidance to students and said that it was unfortunate that the students were not given the freedom to choose their careers by their parents.

Referring to the small number of candidates getting through the competitive examinations from the State, the Vice-Chancellor said that more pre-examination training centres should be opened. He advised the teachers to give proper guidance in and out of the classroom in collecting information, planning a career and other problems.

The Chief of the Information Guidance Bureau, Prof. N. Y. Reddy, said that career planning should be taken up at the middle school level and new aptitude tests should be devised for the students.

Need for practical oriented farm graduates

Addressing the delegates to the ICAR golden jubilee symposium, the Vice-Chancellor of Haryana Agricultural University, Dr. P.S. Lamba, said that the aim of agricultural education in India should be to produce graduates who could manage various extension posts, go in for higher education in agriculture and become progressive farmers. The failure of agricultural education to turn out practical oriented graduates had been major concern to agricultural universities in India.

Dr. M.V. Rajasekharan of the Assam Institute of Rural Development said that making every graduate a practical farmer still remained an unattained ideal.

Commission on health sciences recommended

The national conference on medical and health education held recently in New Delhi has recommended setting up of a commission on health sciences on the lines of the University Grants Commission. The commission would function as an implementing and regulative agency with adequate funds to evolve medical and health education best suited to the country's needs. It was however pointed out that the commission would not be dominated by modern system of medicine and there would be an equitable distribution of grants to the institutions of various systems. It was also suggested that in issuing of grants and in laying guidelines for education and training of various categories of health workers the commission would consult expert panels appointed by councils for different systems.

It has urged that the education for all categories should be structured such as to provide an effective health care delivery system. It was emphasised that health care should include preventive, promotive, curative and rehabilitative services to the community instead of the present system that is heavily biased in favour of curative and hospital based medicare.

The conference recommended that medical research in the country should focus on communicable diseases; effective birth control methods, environmental health problems, promising remedies in indigenous systems and on medical education itself. It was suggested that 85 per cent of the research budget should be allocated for these areas while the remaining should go to basic research.

The conference urged that the education and training facilities for para professionals should be considerably strengthened and opportunities should be provided to them to further their career through continuing education.

Another important recommendation made at the conference was with regard to the setting up of a health science university in every state to impart instruction and training in all systems of medicine and for all categories of health personnel. It was suggested that this university should be unitary in character like that of AIIMS and the IITs and should have the power of affiliating all medical institutions in that state including those of indigenous systems and paramedics.

It was agreed at the conference that the medium of instruction for health workers up to the PHC level should be in regional language. It was further agreed that English should continue to be the medium of instruction in medical colleges so that the Indian doctors should keep abreast of the latest developments elsewhere.

As regards internship training, it was felt that it should be retained at the PHC's and district hospitals rather than at the teaching hospitals attached to medical colleges. It was also recommended that 2 years service in rural areas should be made compulsory for all medical graduates who wanted to go in for government jobs or post-graduation, one year of which should be treated as internship period.

The conference approved the idea of periodic registration of doctors after every five years with nominal dues with a view to providing a better idea of effective manpower availability.

Bihar VCs confer with Chancellor

At a meeting held recently in Patna, the Chancellor of Bihar Universities has asked all the Vice-Chancellors to maintain the teaching and examination schedules. He said the universities should fix the dates of 1979 and 1980 examinations and send them to the State Government. These dates would be published in the government gazette and the Vice-Chancellors would have no powers to change the dates of examinations or revise the examination programme after their publication in the official gazette.

Other decisions taken at the meeting included payment of remuneration to the teachers engaged in examination works including paper setting and evaluation; introduction of triple benefit scheme in Patna and Magadh Universities and approval of service condition statutes.

With regard to the anomalies in the appointment of non-teaching staff, a four-member committee consisting of Dr. S.P. Sinha, Deputy Chairman of Inter-University Board, Shri D.P. Singh, Vice-Chancellor of Rajendra Agricultural University, Dr. K.N. Prasad, Vice-Chancellor of Patna University and Dr. Damodar Thakur, Director of Higher Education, was constituted to fix the norms relating to strength of non-teaching employees including officers in different universities and colleges. Another committee of five members was also constituted to fix criteria for transfer of teachers from one college to another and form degree college to postgraduate department.

Besides the Vice-Chancellors of all the universities in the State, the Minister of State for Higher Education, the Deputy Chairman of the Inter-University, Board, the Director of Higher Education and the Education Commissioner also attended the meeting.

Madras introduces MA course in communication

Based on the recommendations of an expert committee appointed to advise the restructuring of the Department of Journalism, the Madras University has introduced a course in MA (Communication) from the current academic session. This would replace the existing Bachelor of Journalism Course.

The course would run into four semesters. During this period the students would receive practical training in news reporting, editorial and feature writing, page make-up, editing, advertisement, copy writing etc. for a minimum period of two months. This being an intensively job-oriented course, the students would be required to bring out at least one issue of laboratory journal and would also associate themselves in bringing out the annual number besides internship or practical training with a news agency. They would also be required to acquire working knowledge in typewriting and shorthand to enable them to type an ordinary printed passage containing 375 words. Training in typewriting and shorthand will be given in the department. There will however be no formal university examination in these subjects. All papers for both internal assessment and university examinations would carry 100 marks each.

Research schemes at Assam Agricultural Varsity

Speaking at a function in Jorhat, the Vice-Chancellor of Assam Agricultural University, Dr. D.N. Borthakur, said that adequate budget provision had been made to include more research schemes in the field of animal science under the Faculty of Veterinary Science of the university. He said that the research programmes of the university had been developed keeping in view the immediate needs of the farmers. In the field of Extension Services, the university had taken steps to strengthen the extension education activities of the university. The ICAR had also sanctioned a Krishi Vigyan Kendra for training of farmers and the State Government had decided to transfer two blocks in the Sibsagar district to the university for its development.

The Vice-Chancellor said that the university had increased the number of seats for admission to B.Sc. (Agril) course from 90 to 120 from the current academic year. This had become necessary keeping in view the great need of manpower in the State.

Need for change in education stressed

Dr. S.C. Seth, Member-Secretary of the panel on futurology in the department of science and technology, inaugurated a workshop on higher education at the Institute of Social Science of Agra University recently. In his address he stressed the need for a change in the system of higher education which was urban-oriented and ignored the needs of the people in rural areas. Dr. Seth added that any futuristic projections in the sphere of education must take into account the developmental needs of the country. He however pointed out that the population in the 6-14 age group was expected to cross 145 million mark by 2000 A. D. and if the country had to achieve a breakthrough in education it would have to spend at least 10 per cent of its GNP on education as against 3 per cent being spent at present.

The Vice-Chancellor of Agra University, Dr. S. N. Mehrotra, said that the programme for education transformation in the country should be linked to the programme for the economic and social transformation.

About 50 experts in futurology and representatives of the Union Government and the Planning Commission participated in the deliberations of the workshop.

Farm varsities students to assist farmers

Dr. M.S. Swaminathan, former Director-General of Indian Council of Agricultural Research and currently Secretary, Ministry of Agriculture & Irrigation has suggested to all the Vice-Chancellors of agricultural universities that the students should be called upon to assist the farmers to secure the maximum possible yield out of the standing crops in the event of an abnormal monsoon. The students should undertake programmes of pest control on an area basis and of efficient water utilisation with the help of State Departments of Agriculture. They should take appropriate measures to enhance the grain weight and to popularise the improved post-harvest technology in order to minimise the loss after harvest. In addition, the students, after conducting soil health surveys, should make suitable recommendations for rabi crops so as to take full advantage of the residual moisture in the black soil areas.

Need for reorientation of study system

The Andhra Pradesh Chief Minister, Dr. M. Channa Reddy, called for reorientation of education system so as to make it more purposeful and useful to the student community. He said that the present system was neither useful to the students themselves nor to the society at large and that the education had become a status symbol. He stressed the need for vocationalisation of educational system and the involvement of the students in production activity.

Dr. Reddy said that the Government had decided to appoint a commission on manpower planning with an emphasis on rural manpower in order to bring about changes in the education system. A committee consisting of the Chief Secretary, Finance Secretary and the Vice-Chancellor of Osmania University had already been constituted to finalise the terms of reference of the commission.

Prof. G. Ram Reddy, Vice-Chancellor of Osmania University, said that educational institutions should impart training to students in various skills and called for qualitative improvement in education.

Workshop on adult education

A three-day workshop on the role of development departments and adult education was held at Patna recently. Inaugurating the workshop, Mr. K.A. Ramasubramaniam, Chief Secretary, Bihar, said that adult education workers could work as a catalyst between the government functionaries and the people in order to accelerate the pace of development. He added that the adult education programmes should be so designed that it catered to the basic needs of ignorant adults and improved their social and economic conditions by arousing total awareness in them and improving their working abilities and skills.

Dr. S.P. Sinha, Deputy Chairman of the Bihar State Inter-University Board asked the adult education workers to work with faith and dedication and give correct statistics of real progress done in the programme. Adult education was meant for making illiterate mass functionally literate. Workers might feel difficulties in the beginning but once the work was started in true perspective, it would gain momentum It should not be a mere formality for the workers and government servants but real work should be done to educate the teeming millions about the art of living and how to make life worth living. Workers must work with missionary zeal to inspire illiterates to know their rights and duties. He stressed the need for devising work programme with care without any politics intruding in this valuable scheme and interlinking old values of life with modern values.

Dr. Sachchidanand, Director of A.N. Sinha Institute of Social Sciences, said that adult education was a national scheme and all the departments should concentrate on the programme so that the masses played an active role in the socio-economic changes.

Home Science college to meet rural women needs

Speaking at a valedictory function organised by the Home Science College of the Andhra Pradesh Agricultural University, Dr. K.V. Raman, Dean of Postgraduate Studies stressed the need to re-orient the objective and working of the College to suit the urgent requirements of rural women for establishing more happy and better homes in the countryside.

Mr. E.N. Katkar, Regional Programme Officer, UNICEF, in his address advised the trainees that the extension of Home Science knowledge should be based on problem solving approaches so that the rural population is satisfied in the process.

The Joint Director of the State Women and Child Welfare Department commended the unstinted support and cooperation received from the APAU through the Home Science College and appealed to the trainees to make full use of the new knowledge in solving the problems of rural women.

Study of administrative system in elementary education

The Union Ministry of Education proposes to introduce a study of the administrative system in elementary education in nine educationally backward States of India for implementation of the programme of universalisation of elementary education. The study will be conducted under the academic guidance of the National Institute of Educational Planning and Administration.

Assam is one of these nine educationally backward States and the Government has appointed Dr. R.C. Das, Principal, State Institute of Education and Shri P.M. Barua, Research Officer, Directorate of Elementary Education, to undertake the study of administration in Assam and to recommend measures for strengthening the administrative system specially in relation to implementation of universalisation programme in the State.

Bihar introduces written test for teachers

The Vice-Chancellors conference held recently in Patna under the auspices of the Bihar State Inter-University Board has decided to conduct written test for appointment of temporary lecturers in different universities in the State in order to improve the standard of teaching. It was also decided that there would be uniform criteria for appointment of teachers in all the universities in the State. The written test would be held in addition to interview and appraisal of the academic career of candidates. The conference also decided that there would be uniform service statutes in all the universities.

Seminar on role of language

The Central Institute of Hindi, Hyderabad, proposes to organise a national seminar on the role of language in a developing multilingual society. The objective of the seminar is to focus on the role the Indian languages are expected to play to suit the needs of a developing society, linguistic problems before the nation and suggestions for a proper policy framework. Vice-Chancellors, Directors of Language Institutes, Professors of language and linguistics departments, eminent scholars and educationists are expected to participate in the seminar.

Farmers' functional literacy programme at GAU

With the assistance of the State Government, the Gujarat Agricultural University would undertake the Farmers' Functional Literacy Programme soon. Under this programme the farm adults would be given technical information regarding package of different crops, gobar gas plant, family planning, health and sanitation, social forestry, optimum use of irrigation water, dry farming techniques, integrated post management, etc.

Course on canning and preservation

The Youth Welfare Department of Madurai Kamaraj University proposes to organise a one-week course on canning, preservation and nutrition for the benefit of the students of colleges. During the course, in addition to nutrition classes, preparation of squashes, syrups, pickles, chuntnis etc. would be taught.

Plea for health education for all

The Tenth Internatianal Conference on Health Education was held in London recently under the auspices of the International Union for Health Education. Addressing the conference, Mr C.R. Krishnamurthi, Joint Secretary in the Union Health Ministry called for the intensification of health education to help people achieve health by their actions and efforts. If the objective of 'health for all' by the year 2000 was to be achieved then the objective of 'health education for all' by 1990 must be set and the health educators must assume the leadership role in this direction. They have to be the torch bearers of change and must unhesitatingly use all available resources in achieving this noble objective.

Outlining India's efforts in this direction, Mr. Krishnamurthi described the large scale primary health care and training schemes currently being undertaken with volunteers drawn from village communities to be trained as community health workers to help villagers with an emphasis on promotive and preventive aspects of health. So far 100,000 workers have been trained and were working in the field. Mr. Krishnamurthi said that what was being attempted in terms of mass involvement of the Indian sub-continent had no parallel in Indian health history. The attempt was to provide a health educator in every village.

Energy planning in universities suggested

Delivering the silver jubilee convocation address at the Sri Venkateswara University, Dr. M.S. Swaminathan, Secretary, Ministry of Agriculture and Irrigation, called for an integrated attention to the problems of geology, energy and employment to improve the quality of life in the villages. He urged the setting up of inter-disciplinary energy planning and development groups in the universities to tackle the problem of energy supply. These groups must be action oriented rather than immersed only in theoretical calculations and preparation of academic papers.

Dr. Swaminathan said that unless social engineering and bioengineering were integrated the gap between technical knowhow and its field application would continue to widen. He said that despite all efforts by the Government the problem of providing opportunities for gainful employment had evaded solution. He expressed the view that integrated packages of services and public policies should be introduced to enable all farmers to benefit from technology.

He said the block level planning approach would provide a unique opportunity for developing employment generation programmes based on scientific resource utilisation starategies. For this, he added, our universities would have to prepare developmental balance sheets for each block bringing out their assets and liabilities based on an understanding of the biological, physical and material resources of the area. The country needed an economic ecology movement led by the universities which would help the people derive full economic benefit from the ecological assets and prevent damage to non-renewable wealth. Dr. Swaminathan said that there was now an awareness that unless an age of humanism was superimposed on the present era of science and technology, there could be no lasting peace and happiness on earth and to achieve this blend, science and spirituality have to be fused.

AICTE eastern regional committee meets in Calcutta

The regional committee of the All India Council for Technical Education met recently in Calcutta. The committee Chairman, Shri A. L. Mudaliar, emphasised the need of financial support for the success of the improved community polytechnics and for specific projects aimed at the transfer of technology to the rural sector. He however regretted that the matching grants for these polytechnics were not forthcoming from the State Governments resulting in inordinate delays in the implementation of the quality improvement programmes. Shri Mudaliar suggested thorough review of academic performance of the technical institutions in the region and emphasised that the national body like the AICTE should have the power of accreditation enjoyed by similar other bodies like the ICMR or the Bar Council of India.

The Committee approved, among other things, the reports of the expert committees for establishment of a women's polytechnic at Bhubaneswar, leather technological institute at Rayagada, increase in admission capacity of the engineering college at Jorhat, augmentation of campus facilities at the Tripura Engineering College and introduction of new courses in Pharmacy and Textile Chemistry in the Government Polytechnic, Imphal.

Besides Directors incharge of technical education in the State and principals of engineering colleges, the meeting was also attended by the Vice-Chancellor of Jadavpur University and the Director of IIT, Kharagpur.

Better feed for livestocks formulated at HAU

A survey conducted by the scientists of Haryana Agricultural University for the assessment of nutritional status of dairy animals has revealed that the animals of rich, marginal and poor farmers throughout the State are provided with a ration containing insufficient quantities of protein. The university has therefore, under its lab to land programme of transferring technology to the villages, taken up a project of balanced feeding of livestocks in two villages under its jurisdiction. A mixture of molasses, urea, minerals and vitamins has been formulated at the university and the required quantities of this feed are mixed with cereal straws of 'kadbi' that is fed to the animals. This feed formulated by the scientists of the Animal Nutrition Department of the university has found favourable response from the farmers. In another scientific study undertaken at the university it has been revealed that cotton seed cake is as good as cotton seed. The university has also started a 'programme of cotton seed vs cottonseed cake feeding' to bring home to the farmers that the cottton seed cake has an edge over cotton seed.

Short-term medical course recommended

Dr. J.D. Sethi, Member, Planning Commisson said that the UGC had agreed in principle to introduce a three-year short term medical course after 10+2 to meet the growing demand of doctors in rural areas. He said that a committee of experts representing the Planning Commission, the UGC and the Union Health Ministry had been constituted to work out the details of the short term medical course.

Dr. Sethi stressed the need for strengthening and expanding training facilities for para-medical personnel who would be required to play a significant role in the delivery of health services in the rural areas. Efforts should be made to recruit people with a rural background for these short-term courses so that they did not hesitate to serve the vast multitudes in the villages.

The Government feels that such short term medical schools should preferably be located in rural areas rather than in big cities and to start with a district or sub-divisional town with a rural set-up may be selected for this purpose. The course content and the duration should be carefully worked out by a committee of experts and a person passing out of this course should be assured a job by the State Government at the level of a primary health centre or given charge of a district board or panchayat dispensary.

GAU undertakes lab to land programme for rural farmers

As part of its golden jubilee celebrations, the Indian Council of Agricultural Research, has sanctioned a 'lab to land—transfer of technology' programme for the Gujarat Agricultural University at an estimated cost of Rs 32.60 lakhs. Under this programme the university would organise crop demonstrations on farmers' fields, group discussions, farmers' shibir, farmers' days, agricultural exhibitions, publication of literature and need based short duration intensive training programmes for farmers, farm women and farm youth. The university has already undertaken this massive programme of lab to land for 4000 families in Gujarat State. The intensive short duration need based training programmes would also be organised at the campus. Through these programmes the income of the farmers is expected to be doubled within a period of 2-3 years.

Incentives for NSS volunteers

The authorities of the Punjabi University have approved an incentive scheme for the NSS volunteers. Under this scheme outstanding volunteers would be given conscessions for admission to various courses of study in the university teaching departments. They would also be given weightage on the basis of marks secured provided they have shown qualities of a good NSS volunteer, have participated in adult education, blood donation, tree plantation and have also obtained a certificate of good conduct from the NSS Programme Officer/Principal of the concerned college/institute.

In addition to the above, the university also awards one gold medal, three silver medals and 16 university NSS colours every year to the outstanding NSS volunteers from the colleges affiliated to the university.

Vocational courses at Andhra proposed

The Andhra Pradesh Government is keen to introduce vocational courses with a view to making intermediate education more purposeful and useful to the student community. The main thrust of the scheme is to establish close links between education and employment.

During this year the vocational courses would be introduced as a pilot scheme in the selected government junior and degree colleges in towns where there were polytechnics, colleges of agriculture, and colleges of veterinary science. These courses would aim at generating employment and self-employment potential and would reduce pressure on higher education.

Short-term courses at ISM

Under its Executive Development Programme, the Indian School of Mines, Dhanbad, proposes to organise the following short term courses during September and October this year : (i) Hydraulic Stowing and Slurry Transport; (ii) Advanced Mine Surveying ; (iii) Problems of Deep Mining ; (iv) Instrumentation in Mining Indutry ; and (v) Surface Mining.

Detailed information with regard to course content, methodology and faculty, course fee, duration, registration forms, etc. may be obtained from Professor of Continuing Education and Technical Secretary to the Director.

Diploma in Painting recognised

The Karnataka Government has recognised the diploma in painting and diploma in applied commercial art awarded by the Technical Board Examinations, Mysore, to the students trained at the School of Arts and Crafts, Devengere, for recruitment purposes.

Chair in suffism in Rajasthan

The Rajasthan University proposes to institute a chair in suffism in the name of Hazarat Khaja Gharib Nawaz. For this purpose a postgraduate course would be conducted in Ajmer College.

Personal

1. Dr. S.K.S. Bhandari has taken over as Vice-Chancellor of Awadhesh Pratap Singh University, Rewa.
2. Prof. K.A. Jaleel has been appointed Vice-Chancellor of Calicut University.

A list of Doctoral Theses Accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Babban Kumar. A class of linear positive approximation methods. Indian Institute of Technology, Kanpur.

2. Ganesh, M. Study of projective structures on compact complex manifolds. University of Madras.

3. Hegde, Malati. Some enumerative digraphs and hypergraphs problems. Indian Institute of Technology, Kanpur.

4. Hingu, Jayantilal Vastabhai. Some theoretical studies in hydrodynamic and hydromagnetic lubrications. Sardar Patel University.

5. *Jagadish Prasad. Orthogonality and characterisations* of inner product spaces. Indian Institute of Technology, Kanpur.

6. Mohammad Hasanuzzaman. On some problems of supersonic gas flows past blunt bodies at infinite Mach number. University of Calcutta.

7. Mukhopadhyay, Subirkumar. On normality of numbers. *University of Calcutta.*

8. Namdeo, Rajendra Kumar. A study of some topics related to C-compactness in topology. University of Saugar.

9. Narasimha Rao, P. V. Fluid flow and heat transfer problems in tubes and channels. Kakatiya University.

10. Padhy, Sudarsan. Some boundary value problems on viscous and visco-elastic flows. Utkal University.

11. Padmanabha Rao, Anantpur Bacche Rao. Gravitational collapse. Shivaji University.

12. Pattabhi Rama Sastry, Kambhampaty. Convexity *conditions in normed linear spaces and contributions to fixed* point theory. Andhra University.

13. Poornima, S. A study of multiplier spaces for Segal algebras. University of Madras.

14. Pratihari, Damodar. Real zeros of random algebraic polynomials. Utkal University.

15. Rao, J. V. Some properties of finite difference scheme and unique existence of solutions for boundary value problems. Gujarat University.

16. Rattan Chand. Some aspects of functions analytic in the unit disc. Indian Institute of Technology, Kanpur.

17. Rizvi, Syed Rafat Husain. Some aspects of expansions, approximation and interpolation of analytic functions. Indian Institute of Technology, Kanpur.

18. Subrahmanyam, *Ponnada. Asymptotic formulae for the* summatory functions of certain types of maximal divisors of an integer. Andhra University.

Physics

1. Abhyankar, Rohini Vaman. Fabrication of the CRT display terminal using TV monitor and its use in microcomputer laboratory. University of Poona.

2. *Acharya, Charusheela Trimbak. Optical study of* dissolution phenomena and micro-identation hardness on surfaces of different types of crystals. M. S. University of Baroda.

3. Anithakumar, C. S. Studies in D. C. conductivity of some organic semiconductors. Karnatak University.

4. Ansari, A. A. Electron paramagnetic resonance studies of $Mn^{2}+$, $V^{2}+$ and $Cr^{3}+$ in single crystals. Indian Institute of Technology, Kanpur.

5. Basuthakur, Sudipta. On the study of interaction of electromagnetic waves and acoustic waves in liquid medium. University of Calcutta.

6. Bhattacharjee, Sovan Kumar. Crystal structure studies on bicyclic and heterocyclic amino acid analogues. University of Madras.

7. Bhattacharyya, Brahmananda. Neutrino theory of light, finite quantum field theory and some problems in connection with the compositeness of hadrons. University of Calcutta.

8. Chakraborty, P. P. Asymmetry of mass and charge distribution in low energy fission and fissible material identification techniques. Gujarat University.

9. Chandrasekhar, K. X-ray studies on biological molecules. University of Madras.

10. Datta, Arup Kumar. Studies on scattering of electromagnetic waves by dielectric cylindrical structures. University of Calcutta.

11. Gandi, K. R. Krishna. *Band structure: Calculation of* electron momentum distributions in vanadium and vanadium deuteride. Indian Institute of Technology, Kanpur.

12. Gnanasekaran, S. Molecular kinetic constants and vibrational problems. University of Madras.

13. Jadhav, Dattatraya Bhikaji. On the use of grating monochromators in measurements of daysky and dayglow *radiations. University of Poona.*

14. Jain, A. V. Electron paramagnetic resonance study of $Mn^{2}+$ doped single crystals of ferroelectric sodium nitrite. Indian Institute of Technology, Kanpur.

15. Kavi, Pandurang Shrinivas. Investigations on certain physical and biological properties of the seed material and on the changes in them due to pregermination magnetic field *treatment. Shivaji University.*

16. Khasbardar, Bhalchandra Vyankatesh. X-ray spectroscopic studies on Co-Al alloys and Co (III) complexes. Shivaji University.

17. Mitra, Gautam. Studies on the refraction of spherical wavefronts through an array of planar layers. University of Calcutta.

18. Mitra, Sriradha. *Photodynamic damage and its repair* in Escherichia coli cells. University of Calcutta.

19. Narayanasamy, A. Mossbauer effect studies of magnetic *hyperfine fields in binary alloys, intermetallic compounds* and rare earth iron oxides. University of Madras.

20. Phadke, Shireesh Dhundiraj. Electrical properties of plasma polymerised thin films. University of Poona.

21. Philip, Jacob. Propagation of elastic waves in crystals and scattering of neutrons by anharmonic lattices. University of Kerala.

22. Sarkar, Harischandra. Compositeness of photon and the form factor of hadrons from the view point of the Bethes Alpeter equation. University of Calcutta.

23. Sarkar, Kalpana. Scatterring of electrons and positrons by different atoms. University of Calcutta.

24. Sinha, Satya Narayan. Selected topics in the theory of fundamental particles. Visva-Bharati.

25. Srinivasa Rao, Chandan Venkat. Studies on some fast neutron cross sections of fusion reactor interest. Andhra University.

26. Sriram, M. S. Suppression of ultraviolet infinities in gravity modified quantum field theories. Indian Institute of Technology, Kanpur.

27. Sur, Keya. Dilute and concentrated mixed valence systems: Some simple models. Indian Institute of Technology, Kanpur.

28. Yadav, Shankar Sahai. Luminescence studies of CaO: Sb: Mn phosphors. University of Saugar.

Chemistry

1. Agrawal, U. P. Fluorescence lifetimes of ground and excited stated EDA complexes and spectroscopic and theoretical studies of intermolecular and ion-molecule interactions. Indian Institute of Technology, Kanpur.

2. Bagchi, Sanjib. Some aspects of molecular complexes and charge transfer band. University of Calcutta.

3. Biswas, Samir. Studies on vinyl polymerization with the use of some complex initiator systems. University of Calcutta.

4. Chandwadkar, Asha Jeevan. Studies on physico-chemical properties of synthetic zeolites. University of Poona.

5. Chattopadhyay, Syamsundar. Studies on the rheological characteristics of clay suspension in relation to exchangeable cations. University of Calcutta.

6. Das, Krishnasri. Studies in alicyclic systems. University of Calcutta.

7. Deshmukh, Sashikant Narayan. Electro-optical and structural properties of some electro-luminophors. Shivaji University.

8. Dikshit, Madhurima. Essential amino acid concept in humans: A need for reassessment. University of Poona.

9. Geetha, K. V. Studies in molecular rearrangements. University of Madras.

10. Gnanasundaram, P. Some reactions involving metal ions. University of Madras.

11. Grover, Gyan Singh. Chemical and antimicrobial studies of plant products. University of Saugar.

12. Gupte, S. K. Toxicity of hexachlorocyclohexane (HCH)—an organochlorine insecticide: Human surveillance and animal experimental studies. Gujarat University.

13. Havanur, Shambhuling Basappa. Reaction of mesoionic compounds and their biological evaluation. Karnatak University.

14. Johri, Madhulika. Studies on some nitrogen and sulphur containing ligands and their micro-analytical applications. University of Delhi.

15. Mankad, Kalyaniben Bhaskerrai. Study on physico-chemical properties of certain organic molecules. Sardar Patel University.

16. Mehrotra, M. M. Castor oil prostaglandins: Synthesis of PGF_1 α, Homo PGF_1 α, 9, 11—Etheno PGH_1 and 9,11—Etheno Homo PGH_1. Indian Institute of Technology, Kanpur.

17. Mitra, Abhijit. Thermal and photochemical transformations of a few aza heterotrienes and related studies. Indian Institute of Technology, Kanpur.

18. Mukhopadhyay, Nikhileswar. Studies on photo polymerization of methyl methacrylates using some peroxide systems and amine compounds. University of Calcutta.

19. Mukhopadhyay, Triptikumar. Studies on a novel observation in the Vilsmeier-Haack reaction during the synthesis of kigelin, University of Poona.

20. Nayak, Narayan. Some physico-chemical aspects of calcium-cadmium exchange in hydroxylapatite. Sambalpur University.

21. Patel, Ashwinkumar Chhotubhai. Studies in synthetic dyes. Sardar Patel University.

22. Patel, Hasmukhchandra Shanubhai. Hydroxy benzoic acid-formaldehyde polymers. Sardar Patel University.

23. Ramakrishna, Rasamsetty. Some new analytical methods for the assay of sulpha drugs. Andhra University.

24. Ramana Rao, V. V. Some interesting studies of mono and diorganoboranes. Indian Institute of Technology, Kanpur.

25. Roy, Subir Kumar. Synthetic studies in polycyclic compounds: Study of base catalysed condensation of the easters of naphthalene-1-carboxy-2-acetic acid and its isomer 2-carboxy 1-acetic acid with αβ-unsaturated esters. Visva-Bharati.

26. Sharma, Alka. Chemical and antimicrobial studies on some Indian medicinal plants. University of Saugar.

27. Singh, A. N. Nickel in oxidation states II, III and IV. Indian Institute of Technology, Kanpur.

28. Sonar, Maruti Honnappa. Application of physico-chemical methods in the study of the metal complexes of thiocarbonyl compounds. Karnatak University.

22. Subba Rao, A. Chemistry of heterocyclic compounds containing nitrogen, oxygen and sulphur. University of Poona.

30. Subramaniun, V. Harihara. Design and construction of an injection and phase-locked super regenerative oscillator nuclear quadruple resonance spectrometer and ^{35}Cl NQR studies on powder speciments. Indian Institute of Technology, Kanpur.

31. Uppal, Mahesh Kumar. Theoretical studies of point defects in ionic solids and polytytism. Indian Institute of Technology, Kanpur.

32. Vasudevan, S. Studies of semiconductor metal and spin state transition by PES and Jahn-Teller induced pase transitions in $CsCuCl_3$. Indian Institute of Technology, Kanpur.

Earth Sciences

1. Dora, Yenumal Latchanna. Certain aspects of provenance and sedimentation of the modern sediments of the Godavari distributary, India. Andhra University.

2. Nageswara Rao, Jagarlamudi. Studies on foraminifera from the Gosthani Estuary and the Visakhapatnam shelf sediments, East Coast of India. Andhra University.

3. Patel, Pankaj Kikubhai. Geology of the bentonite deposists of Kutch, Gujarat with special reference to their occurrence, origin and industrial applications. M.S. University of Baroda.

4. Visweswara Rao, Palisetti. Synoptic studies of the onset and break conditions of the Indian summer monsoon. Andhra University.

Engineering & Technology

1. Ballal. N. B. A water model study of cotton blown steelmaking processes. Indian Institute of Technology, Kanpur.

2. Basu, Susanta. Statistical analysis of seismic data and seismic risk analysis of Indian Peninsula. Indian Institute of Technology, Kanpur.

3. Khot, Annasaheb Shahu. Some studies on spillway piers. University of Poona.

4. Kishore. V. V. N. A study of vibrational relaxation in shock heated SO_2, SO_2+Ar and SO_2+ He by laser Schlieren technique. Indian Institute of Technology, Kanpur.

5. Krishnan, A. Studies in nonlinear discrete time systems. Indian Institute of Technology, Kanpur.

6. Lall, S. N. Static relays using integrated circuits and digital techniques. Indian Institute of Technology, Kanpur.

7. Marimuthu. P. Studies on pole-changing induction and commutator machines. University of Madras.

8. Raghavaiah, Chitturi Venkata. Study of the laminar flow forced connective heat transfer and pressure drop in channels of elliptical cross sections. Andhra University.

9. Rajamani, A. Dynamic response of composite plates with cutout and holes. Indian Institute of Technology, Kanpur.

10. Rangaswami, R. Structural analysis and optimum design of power transmission tower structures by computer methods. University of Madras.

11. Rao, A. N. Study of rate of formation of p-cyclophane and aceton-e products and their distributions in quenching of the pyrolysed stream of p-xylene. Indian Institute of Technology, Kanpur.

12. Ray, Bodhendu. Studies on weldability and formability of indigenously manufactured austenitic stainless steels. University of Calcutta.

13. Sambhrao, Santpur Swanand. Some problems in unsteady flow. Shivaji University.

14. Swaminathan, T. Studies on stirred ultrafiltration of protein solutions. Indian Institute of Technology, Kanpur.

BIOLOGICAL SCIENCES

Anthropology

1. Sarkar, Dharmadas. A comparative dermatoglyphic study of the upper and lower caste people, viz. Brahmin, Kayastha, Muchi etc. of West Bengal. University of Calcutta.

2. Singh, K. Saratchandra. Bioanthropological study of three populations in Manipur Valley. University of Poona.

Biochemistry

1. Govindasamy, S. Mycotoxicoses: Pencillium patulum toxicosis studies In rats. University of Madras.

2. Mitra, Prasanta Kumar. Studies on the antithiamine factor pre sent in rai, Eleusine coracana. University of Calcutta.

3. Philip, Babu. Role of hormones and trace elements in the metabolism of glycosaminoglycans and glycoproteins in relation to atherosclerosis. University of Kerala.

4. Sarangi, Bandita. Studies on wasp venom. University of Calcutta.

Microbiology

1. Albert, M. John. Microflora of the human intestinal tract in health and disease. University of Madras.

2. Dandawate, Chandrashekhar Narhar. Studies on killer Kyasenur Forest disease virus vaccine. University of Poona.

3. Deshpande, Hemant Anant. Studies on microbial conversion of manganese. University of Poona.

4. Gupta, Arunkumar Ramdyal. Studies on the physiology of ergot alkaloid production in Aspergillus fumigatus. M. S. University of Baroda.

Botany

1. Azad, Abdul Rashid. Taxonomical studies of the family asteraceae of Kashmir with particular reference to the tribe Cardueae. University of Kashmir.

2. Basu, Debjani. Physiological investigations on some medicinal plants. University of Calcutta.

3, Bonde, Suresh Dattatray. Studies on the fossil flora of Chanda Area. University of Poona.

4. Brahmachari, Sunil Kumar. Irradiation studies of Oryza sativa L. (Var. Fainan-3). University of Burdwan.

5. Chakraborty, Nityananda. Studies on post-harvest rot of banana fruits caused by Botryodiplodia theobromae Pat. and the biochemical changes caused during decay. University of Burdwan.

6. Chaudhuri, Sarbani. Investigation on the origin of R-factors. University of Calcutta.

7. Debnath, Anilranjan. Study on radiation induced useful mutants in rice. University of Calcutta.

8. Deore, Leelavati Tulshiram. Studies on the freshwater algae of Maharashtra. University of Poona.

9. Ghosh, Purnendu Kumar. Certain anatomical problems of variation pattern and phylogeny. University of Calcutta.

10. Kasturi Bai, R. Studies on rhizobial isolates from South Indian legumes. University of Madras.

11. Kulkarni, Balwant Govind. Flora of South Ratnagiri. University of Poona.

12. Nagchaudhari, Mitali. Studies on the fermentative products and nutritive values of Tricholoma gigantium Masse. University of Calcutta.

13. Ramachandra Menon, A. R. Floristics and phytosociological studies of some parts of Saurashtra. Sardar Patel University.

14. Rao, Shailaja Ramarao. Effect of nitrogen sources on the biogenesis of phenolic compounds in Arachis hypogea L. tissue culture. M.S. University of Baroda.

15. Venkataramani, R. Studies on myxomycetes: Distribution in India and some in vitro studies. University of Madras.

16. Vishwe, Digambar Baliram. Studies in the air spora of Aurangabad. Marathwada University.

Zoology

1. Aravind Babu, A. Some biophysical studies of bird flight. Kakatiya University.

2. Balasoundara Rajan, V. Erythropoiesis during adaptive growth. University of Madras.

3. Deshpande, Vithal Dhondopant. Studies on nematocerous diptera with special reference to Cecidomydidae from Marathwada. Marathwada University.

4. Gangaramani, Naina Fatehchand. Observations on the influence of sex hormones on certain functions of liver in male albino rats, Rattus norvegicus albinas. M. S. University of Baroda.

5. Govardhan, Tamma Lalitha. Studies on some aspects of the biology of Abedus ovatus (Stal) (Insecta : Homoptera). Andhra University.

6. Hari Dass, B. T. Biological and ethological studies on some South Indian Reduviids. University of Madras.

7. Jadhav, Babasaheb Vishwanathrao. Studies on the cestode parasites of fishes. Marathwada University.

8. *Jymes, D. B. Studies on the systematics of some* shallow water Asterodea, Ophiuroidea and Holothuroidea of the Indian seas. Andhra University.

9. Jonathan, Veena. Studies on proteins, amino acids and fat metabolism with reference to neuroendoctrine cycle and reproduction in Dysdercus. University of Saugar.

10. Mathen, K. Studies on Stephanitis typica (Distant) (Heteroptera : Tingidae), A pest of coconut in Kerala. University of Kerala.

11. Narasimhulu, Sanagala Venkata. Digenetic tramatodes from marine fishes of Kalingapatnam coast, Bay of Bengal. Andhra University.

12. Parmar, P. Y. A studies on ascorbic acid metabolism *in avian tissues under normal and altered physiological conditions*. Gujarat University.

13. Patnaik, Suresh Chandra. A study of chromosomes in some Indian birds. Berhampur University.

14. Rajarami Reddy, G. Effect of X-irradiation on some physiological aspects of frog, Rana hexadactyla. Sri Venkateswara University.

15. Rajendra, W. Some aspects of muscular fatigue with reference to nitrogen metabolism. Sri Venkateswara University.

16. Rajesh Kumar. Study of *cell biological* aspects of ciliate protozoan Blepharisma musculus var. Seshachari Bhandary : *Part I. Ultrastructure of food vacuole and membrane* turnover; and Part II. Macromolecular systhesis and *macronuclear differentiation*. University of Delhi.

17. Ramakrishna Reddy, Mukkamala. Studies on helminth parasites of snakes of Andhra Pradesh, India with special reference to ecological aspects. Andhra University.

18. Ranga Rao, Mohana. Endosulfan in the environment and its effect on freshwater fish. Nagarjuna University.

19. Seth, Tarak Nath. Reproductive btology of a pest *bird, Psittacula krameri Borealis. University of Burdwan.*

20. Sur, Robin Kumar. Effects of some physico-chemical stresses, usually present in the breeding gounds, on the gametes and development of Heteropneustes fossilis (Bloch). University of Calcutta.

21. Vasantha, K. Preliminary studies on the lactate dehydrogenase in frog and toad muscles. University of Madras.

Medical Sciences

1. Biswas, Adhir Ranjan. Effect of indigenous plant extracts on the fertility of male rats. University of Madras.

2. *Chatterjee, Sukhendu Bikash. Evaluation of unilateral* electro-convulsive therapy in comparison to conventional *bilateral method. University of Poona.*

3. Chowdary, Kora Pattabi Rama. Studies on reactions between formaldehyde and lysine and its derivatives and their application in the design of sustained release dosage formulation of tolbutamide. Andhra University.

4. Datta, Samir Kumar. Studies on the intestinal transfer of glucose and amino acids as influenced by antibiotics. University of Calcutta.

5. Goyal, Vijay Kumar. Histopatheological and biochemical studies on aging of human and animal tissues. University of Calcutta.

6. *Kuruvilla, Alice. Influence of centrally acting drugs on* cardiac arrhythmias. University of Madras.

7. Mathur, Vivek Bansilal. Bioavailability studies on some oral antidiabetic drugs. University of Saugar.

8. Mitra, Samirchandra. Studies on the adenohypophysial prolactin cells of alibno rats under normal and experimental conditions. University of Calcutta.

9. *Paramasivan, C. N. Laboratory surveillance of the* genus Salmonella and study on humoral and cellular response in human typhoid. University of Madras.

10. Pourany, R. Histogenesis of pre-and postnatal human endocrine pancreas. University of Madras.

11. Ray, Anjali. Certain physiological variations of human seminal fluid at different states of fertility. University of Calcutta.

12. Shukla, Arun Kumar. Microencapsulation and relevant formulation studies of some pharmaceuticals. University of Saugar.

13. *Sinha, Bhabani Prasad. Regulation of breath holding* in low and high lung volumes. University of Calcutta.

14. Sundararaj, T. Cell mediated immunity in experimental Nocardia asteroides infection. University of Madras.

15. Thiruneelakandan, K. Toxicological evaluation of Aspergillus *versicolor (Vuill) Tiraboschi, an isolate from a* granuloma of brain. University of Madras.

16. Thyagarhjan, S. P. Studies on Hepatitis B. Virus infection in Tamil Nadu laying special emphasis on the immunological and biochemical markers with an assessement on the antiviral properties of certain indigenous herbs. University of Madras.

17. Visweswara Sastry, Kadiyam. Studies on lignans and other chemical components of some Indian medicinal plants. Andhra University.

Agriculture

1. *Agarwal, Pratibha.* Certain extensions to existing population models. Haryana Agricultural University.

2. Chattopadhyay, Amitabha. Interaction of humic acids with iron, copper and manganese. University of Madras.

3. **Jana, Bimalkinkar. Physiological studies on Amaryllis Hippeastnum hybridum Hort. University of Calcutta.**

4. Sarkar, Kantimay. Mutation *studies in jute. University* of Calcutta.

Veterinary Science

1. Ananthasubramaniam, C. R. Studies on the nutritional requirements of the Indian elephant. Kerala Agricultural University.

2. Bardalai, Chitendra Chandra. Seasonal variations of the cytomorphological and cytochemical architecture of the testis in sexually mature male goat, Capra hircus. Haryana Agricultural University.

Additions to A.I.U. Library

Australian Vice-Chancellors' Committee, Canberra. *Junior teaching staff: Conditions of employment.* Canberra, Author, 1979. 40p.

———————— *Students with handicaps.* Canberra, Author, 1979. 24p.

Blau, Peter M., ed. *Approaches to the study of social structure.* London, Open Books. 1976. ix, 294p.

Burt, Cyril. *Gifted child.* London, Hoddrer & Stoughton (c1975) vi, 214p.

Butcher, H.J. *Human intelligence : Its nature and assessment.* London, Methuen (c1968) 343p.

Chauhan, S. S. *Innovations in teaching-learning process.* Delhi, Vikas (c1979) viii, 190p.

College Entrance Examination Board, New York. *English composition test with essay : A report prepared by Educational Testing Service, New Jersey.* New York, Author (c1979) 10p.

Cortis, Gerald. *Social context of teaching.* London, Open Books, 1977. x,169p.

Council of Ontario Universities, Committee on Operating Grants. *Approach to the eighties : Demand/quality/resources.* Ontario, Author, 1976. ii, 59p.

———————— *Foundation for an uncertain future : The operating* base. Ontario, Author, 1977. iv,54p.

———————— *Who pays the price?* Toronto, Author, 1979. vii, 62p.

Gerhard, Muriel. *Behavioral outcomes handbook : A practical guide for teachers and administrators.* New York, Parker (c1977)216p.

Husen, Torsten and others. *Teacher training and student achievement in less developed countries.* Washington, World Bank(c1978)ii,135p.

India. Ministry of Education and Social Welfare. *Gazetter of India. V4. Administration and public welfare.* Delhi, Author, 1978. 812p.

Japan, National Commission for Unesco etc. *Educational derelopments in Asia and Oceania : A graphic presentation.* 1978. 31p.

Joshi, D.C. *Survey of university teaching methods.* Baroda, M.S. University of Baroda, 1979. iv, 32p.

Kirk, Russell. *Decadence and renewal in the higher learning : An episodic history of American university and college since 1953.* Indiana, Gateway Editions (c1978) xxii, 354p.

Lovell, K. *Educational psychology and children.* London, Hodder & Stoughton (c1973) 319p.

Marler, Charles Dennis. *Philosophy and schooling.* Boston, Allyn and Bacon (c1975) xii, 395p.

McMeekin, Robert, W. *Educational planning and expenditure decisions in developing countries, with a Malaysian case study.* New York, Praeger, 1975. xv, 194P.

Mialaret, Gaston. *World survey of pre-school education.* Paris, Unesco, (c1976) 67p.

O'Brien. James J. *Management information systems : Concepts, techniques and applications.* New York, Van Nostrand (c1970) vi, 314p.

Odiorne, George S. *Management by objectives : A system of managerial leadership.* Delhi, Arnold-Heineman, 1979. ix, 204p.

Pandit, P.B. *Language in a plural society : The case of India.* Delhi. Dev Raj Chanana Memorial Committee (c1977) 65p.

Pitanilabut, Amphon. *Guidelines for planning of facilities for technical and vocational education.* Bangkok, Unesco Regional Office for Education in Asia & Oceania (c1979) 41p.

Riding, R.J. *School learning : Mechanisms and processes.* London, Open Books, 1977. viii, 167.

Suri, M, Shahnaz. *American influence on higher education in India : A study of post-Independence era.* Delhi, Sterling, 1979. 88p.

University Teachers Welfare Society, Delhi. *New scheme (10+2+3) of education and its impact on teaching community : A seminar report.* Delhi, Author. 52p.

Vernon, Philip E. and others. *Psychology and education of gifted children.* London, Methuen (c1977) vii, 216p.

Wringe, Colin. *Developments in modern language teaching.* Dandon, Open Books, 1976. vi, 135p.

BIDHAN CHANDRA KRISHI VISWA VIDYALAYA

P.O. MOHANPUR, WEST BENGAL

Advertisement No. Appt./6/79

Applications are invited in prescribed form for the post of **Employment Information Officer** in the scale of Rs. 700-40-1100-50-1600/- plus other allowances as admissible under the rules of the Viswa Vidyalaya.

Qualification: Essential

(i) Master's Degree in Agriculture/Veterinary and Animal Sciences following a degree in Agriculture/Veterinary & Animal Science;

(ii) Experience of Placement in a Government or Quasi Government or Statutory organisation.

Age: *Preferably below 40 years.*

Experience and age limit may be relaxable on the recommendation of the Selection Committee in the case of a candidate otherwise qualified. A high initial pay in the scale may be granted on the basis of qualifications, experience & present emoluments.

Applications must be submitted in the prescribed form obtainable from the OFFICE OF THE REGISTRAR, BIDHAN CHANDRA KRISHI VISWA VIDYALAYA, P.O.MOHANPUR, DIST. NADIA, WEST BENGAL BY REMITTING CROSSED INDIAN POSTAL ORDER FOR Rs. 8.00 (Eight) only in favour of the BIDHAN CHANDRA KRISHI VISWA VIDYALAYA PERSONALLY BETWEEN 11.00 A.M. and 4.00 P.M. on weekdays and between 11.00 A.M. and 1.00 P.M. on Saturdays or BY SENDING A SELF ADDRESSED ENVELOPE STAMPED Re. 0.45 (FORTY FIVE PAISE) AND THE NECESSARY POSTAL ORDER.

Persons already in employment should apply through proper channel.

Applications, completed in all respects, should be submitted to the office of the undersigned in an envelope superscribed with the name of the post applied for by the **25th September, 1979**.

Candidates called for interview will have to appear at their own cost.

A. K. Mitra
REGISTRAR (ACTG.)

GAUHATI UNIVERSITY

GAUHATI-14

Corrigendum to the Advertisement No. 13 of 1979

Read "Item No. 17—Reader in M.I.L. (Assamese)" in place of "Reader in M.I.L."

The last date for submission of applications for the above post is extended upto 15th September, 1979.

Item No. 18: Reader in Central Instrumentation Laboratory (Two posts-5th Plan).

The above posts be deleted from Advertisement No. 13 of 1979.

Indian school of Mines

Dhanbad-826004

Advt No. 420005/79 **25th August 1979**

I. Indian School of Mines, a 'deemed University' under the UGC Act, invites applications for the following faculty positions:

1. **One Visiting Professor** for the Deptt of Mining Engineering (for a term of six months extendable by a second term).
2. **One Visiting Asstt Professor** (in Rock Mechanics/Mine Systems Design/Mine Development & Construction) for the Deptt of Mining Engg (for a term of one year, extendable by a second term).
3. **Two Asstt Professors** (1) One in Mine Surveying (for the Deptt of Minning Engg; and (2) One in Management (for the Deptt of Industrial Engg & Management).
4. **Seven Lecturers** (a) One in Economics (for the Deptt of Industrial Engg and Management); (b) Two in Mining Engg (for the Deptt of Mining Engg); (c) one in Fuel Engg and (d) One in Mineral Engg (both for the Deptt of Chemistry, Fuel and Metallurgy); (e) One in Petroleum Engg (for the Deptt of Petroleum Engg); (f) One Electronic Engineer/Lecturer (for the Deptt of Electronics and Instrumentation); (g) One in Mechanical Engg (for the Deptt of Engg and Mining Machinery).

All posts except the visiting assignments, are permanent or likely to become permanent. The visiting assignments and the tenure appointment as Asstt Professor in Management would suit persons employed in Industry or research, etc., who are desirous of academic interaction and exposure.

PAY SCALE AND UPPER AGE LIMIT

Visiting Professsor	Rs. 1500-2500 (50 years)
Asstt Professor/Visiting Asstt Professor	Rs. 1200-1900 (40 years)
Lecturer	Rs. 700-1600 (35 years)

Allowances admissible as per Govt of India Rules sanctioned from time to time. Total emoluments currently amount to Rs. 1028.50/- at the Rs. 700/- stage, Rs. 1570/- at the Rs. 1200/- stage, Rs. 2270/- at the Rs. 1900/- stage and Rs. 2870/- at the Rs. 2500/- stage.

Upper age limit relaxable in respect of certain specified categories of persons and for candidates otherwise considered specially suitable.

II. Specialising in the field of earth sciences and technology, Indian School of Mines conducts three B Tech programmes (in Mining Engg, Mining Machinery and Pet Engg), two M.Sc. programmes (in App Geology and App Geophysis), ten industry-oriented post-graduate programmes in Mining Geophysics/Mineral Exploration/Engg Geology/Drilling Engg/ Mining and Mine Planning/Opencast Mining/Mining Machinery/Mineral Engg/Fuel Engg/Industrial Engg and Management. Two additional M Tech programmes (in Pet Engg and Pet Production) are expected to be started next year. M Phil programmes in App Geology, App Geophysics and App Mathematics are also run.

The School has an ambitious Continuing Education/Executive

Development Programme (covering about 30 courses per year), a strong R & D activity and an approved scheme of institutional consultancy.

III. Detailed information for candidates and prescribed application form are obtainable from the Registrar, Indian School of Mines, Dhanbad—826004, on sending a self-addressed envelope of the size 30 cm x 12 cm affixed with postal stamps of the value of Rs. 3.45 paise. Applications in the prescribed application form, complete in all respects should reach the undersigned on or before **September 30, 1979**.

Those in service are advised to apply through their employer(s).

CANVASSING IN ANY FORM WILL BE CONSIDERED AS DISQUALIFICATION

S. P. VARMA
REGISTRAR

JAWAHARLAL NEHRU UNIVERSITY

NEW *DELHI*-110067

Advt. No. Aca. III/20/79

Applications are invited for the following posts:

SCHOOL OF SOCIAL SCIENCES

Centre of Social Medicine & Community Health

1. Associate Professor/Fellow in Community Health

Essential Qualifications

(a) A consistently good academic record in MBBS or an equivalent qualification from an Indian or foreign University.

(b) A doctoral degree in any aspect of community health or published work of an equally high standard.

(c) About five years of teaching experience or experience in developing interdisciplinary approach to the education and training, research and consultation in the field of community health.

(d) Publications of high quality in the field of Community Health.

Centre for Historical Studies

2. Assistant Professor in Contemporary History

Essential Qualifications

a) Consistently good academic record with at least a high second class Master's degree in History with specialisation in Contemporary History or its equivalent qualification from an Indian/Foreign University;

b) A doctor's degree or published work of an equally high standard.

Area of specialisation required: Indian Political Development.

SCHOOL OF INTERNATIONAL STUDIES

Centre for South, South-East and Central Asian Studies

3. Associate Professor/Fellow or Assistant Professor (Leave Vacancy)
Associate Professor/Fellow

Essential Qualifications

a) Consistently good academic record with at least a high second class Master's degree in any of the Social Sciences or its equivalent qualification from an Indian/foreign University;

b) A Doctor's degree or published work of an equally high standard relating to Sri Lanka Studies;

c) About five years experience of teaching and/or research in the field of Sri Lanka Studies.

Desirable

Knowledge of Sinhalese.

Assistant Professor

Essential Qualifications

a) Consistently good academic record with at least a high second class Master's degree in any of the Social Sciences or its equivalent qualification from an Indian/foreign University;

b) A doctor's degree or published work of an equally high standard relating to Sri Lanka Studies.

Desirable

Knowledge of Sinhalese.

Note

There is only one leave vacancy of an Associate Professor/Fellow till Dec. 31, 1979, but likely to be extended by one year; the University will consider applications for both Associate Professor/Fellow and Assistant Professor, or either only.

Centre for Studies in Diplomacy, International Law and Economics

4. Assistant Professor in Diplomacy

Essential Qualifications

a) Consistently good academic record with at least a high second class Master's Degree in Political Science, History or Economics or its equivalent qualification from an Indian/foreign University; and

b) A doctor's degree preferably in the field of economic diplomacy or published work of an equally high standard.

Provided that in the case of Assistant Professors if the Selection Committee is of the view that the research work of a candidate as evident either from his/her thesis or from his/her published work is of very high standard, it may relax any of the qualifications prescribed in (a) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a person possessing a consistently good academic record (weightage being given to M.Phil. or equivalent degree or research work of quality) may **be appointed provided he/she has done research work for at least two years or has practical experience in a research organisation** on the condition that he/she will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within five years of his/her appointment, failing which he/she will not be able to earn future increments until he/she fulfils these requirements.

CENTRE FOR POSTGRADUATE STUDIES, IMPHAL

5. Deputy Librarian

Essential Qualifications

a) First or high second class Master's degree in Life Sciences/Social Sciences/Humanities and first or high second class Bachelor's Degree in Library Science.

OR

First or high second class Bachelor's degree in Life Sciences/Social Sciences / Humanities and first or high second class Master's degree in Library Science.

b) Five years' experience of working in a responsible position in an academic or research library.

Scales of Pay

Associate Professor/Fellow
Rs. 1200-50-1300-60-1900.
Deputy Librarian
Rs. 1100-50-1600.
Assistant Professor
Rs. 700-40-1100-50-1600.

plus usual allowances as admissible to the members of the staff in the Central Universities.

Relaxation in any of the qualifications may be made (a) in favour of persons of eminence or of high academic/professional distinction, and (b) in exceptional cases where adequately qualified persons are not available but are otherwise found suitable for the respective positions. It will also be open to the University to consider the names of suitable candidates who may not have applied.

The selected candidates will be expected to participate in the teaching and research programmes in the concerned disciplines in other Schools of the University as well as in the programmes offered in their own Centres of Studies.

Normally appointment of Fellows is made on contract basis for a period ranging from one to three years.

Benefits of C.P. Fund-cum-Gratuity/G.P. Fund-cum-Pension-cum-Gratuity are available as per University rules.

Persons already in employment should route their application through proper channel.

Due consideration will be given to candidates belonging to SC/ST at the level of Assistant Professor.

Second class (mail) rail fare (both ways) will be paid to candidates invited to appear for interview from outstation by the shortest route subject to the production of rail receipt.

Applications, separate for each post, on the prescribed form, obtainable free of cost from the University by sending a self-addressed and stamped envelope (affixing Postage Stamps worth Rs. 2.85) of 23 cm x 10 cm size to the Deputy Registrar (Academic), Jawaharlal Nehru University, New Mehrauli Road, New Delhi-110067, should reach him latest by **25th October, 1979.**

Candidates from abroad, applying for faculty positions, may apply on plain paper, (but their applications should reach the University by the last date) furnishing all the relevant informations such as their names, date and place of birth; marital status; nationality; state of domicile; postal and permanent addresses; father's name and address; academic and professional attainments; full details of (a) publications, and (b) research projects undertaken; language(s) known; details of visits to foreign countries; and the names and addresses of at least two persons well acquainted with the candidates professional work who should also be requested by the candidate to forward to the Deputy Registrar (Academic) confidential report concerning the candidate.

UNIVERSITY OF JABALPUR

JABALPUR

Advertisement No. Estt/79/61
dt. 24-8-1979

Applications are invited on plain paper for the post of one Reader in Sociology in the scale of pay of Rs. 1100-50-1600 with benefits of dearness allowance, contributory Provident Fund and other allowances as may be admissible under the University Rules.

Essential Minimum Qualifications

(a) (i) A doctor's degree or published work of an equivalent high standard; and

(b) (i) A 2nd Class Master's degree in a relevant subject with atleast 50% marks (B in the seven point scale) or an equivalent degree of a foreign University; and

N.B.: While taking into account the marks/grade, the marks/grade obtained in internal assessment, if any, shall be excluded.

(ii) Atleast 50% marks at the Bachelor's degree examination on the basis of which division is awarded at the degree level by the University and;

(iii) Atleast 50% marks at the Higher Secondary/Intermediate/Pre-University Examination, as the case may be;

and

c) (i) The experience of teaching postgraduate classes for atleast 5 years; and

(ii) Atleast three years experience of guiding research.

N.B.: (i) The requirement regarding minimum percentage of marks shall be relaxed upto 5% in case of scheduled castes/scheduled tribe candidates.

Qualifications are relaxable in cases of candidates of exceptional merit. Names of eminent persons distinguished in Scholarships who do not apply may also be considered for selection. The candidates in their applications should give details of their 'Specialization' if any. Canvassing in any form by or on behalf of the candidate will disqualify him.

The applications showing the details of qualifications stated above along with the information regarding the proof of the date of birth and past experience accompanied with a Postal Order for Rs. 5/- in the name of the undersigned *should reach here not later than* **24th September, 1979.** The candidates already in employment at present, should send their applications through proper channel.

R. N. Tripathi
REGISTRAR

UTKAL UNIVERSITY

BHUBANESWAR

CORRIGENDUM

Corrigendum to Advertisement No. Estt. 1/886-C/17699/79
dated 24-8-79 and No. Estt.I/893-C/17697/79 dated 24-8-79

Anthropology—Lecturer—1

M.A. or M.Sc. in Anthropology or M.A., M.Sc. (in Archaeology) or M.A. in Ancient Indian History and Culture with specialisation in prehistoric Archaeology.

Preference will be given to candidates *having research experience in* Prehistoric examinations.

instead of

Specialisation for the post notified earlier.

REGISTRAR

Computerised Bibliographical Information Handling

(Continued from page 475)

terminals. The successful demonstration has lead to a proposal to instal permanent on-line terminals for bibliographical information access at Bombay and Delhi.

Suggestions and Recommendations

The appearance of bibliographic data bases in the form of machine-readable magnetic tape is a very significant development to cater to the increasing information needs. In the Indian context, much depends upon the availability of finance and computer. Computerised bibliographical information handling must be done cooperatively at a few centralised places, depending on subject interests and users concentration, where necessary computer hardware capability and expertise exists. Computer terminal facility consisting of CRT terminals, card reader, line printer and other associated data/information transfer equipment connected to the main computer by telephone lines may be provided.

In the perspective of NISSAT scheme, planning, coordination, and management of computer utilization and computer-based information services must be the responsibility of Sectoral Information Centres. ☐

Subscription Rates

Period	Inland	Abroad	
		Surface	Air
	(Rs.)	(Rs.)	(Rs.)
1 year	16.00	80.00	140.00
2 years	30.00	150.00	260.00
3 years	44.00	220.00	360.00
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Single copy	00.80 ps.	4.00	8.00

The Journal is mailed on 1st & 15th of every month.

UTKAL UNIVERSITY
BHUBANESWAR-4

Advertisement No. Estt - 1/886-c/17699/79
Date 24.8.79

Applications are invited in the prescribed form in seven copies alongwith attested copies of certificates and marksheets of all examinations passed for the following teaching posts in the P. G. Departments of Utkal University, M. S. Law College, Cuttack and Bhubaneswar Law College, Vani Vihar on or before the **27th September, 1979**.

Sl. No.	Department	Post vacant	No. of vacancies	Specialisation
1	2	3	4	5
1.	Anthropology	Lecturer	1	M.A. or M.Sc. in Archaeology or M.A. in Ancient Indian History and Culture with Specialisation in Prehistoric Archaeology. Preference will be given to the candidates having research experience in Prehistoric excavations.
2.	Botany	Lecturer	1 (Temporary)	Cytogenetics
3.	English	Lecturer	1 (Temporary)	Eighteenth century Literature.
4.	Geography	Lecturer	1 (Temporary)	Urban and City Planning with sufficient background of using computer programme in Urban and city planning.
5.	Physics	Lecturer	1 (Temporary)	Solid State Physics.
6.	Psychology	Reader	1 (Temporary)	Psysiological Psychology/Experimental Psychology.
		Reader	1 (Temporary)	Developmental Psychology or clinical Psychology.
		Lecturer	1 (Temporary)	Social and/or Organisational Psychology.
7.	M. S. Law College, Cuttack	(i) Lecturer (Whole time)	A few posts (Temporary)	
		(ii) Lecturer (Part time)	A few posts (Temporary)	
8.	Bhubaneswar Law College, Vani Vihar	Lecturer (Whole time)	1 (Temporary)	
9.	Under Graduate Department of Geology located in Ravenshaw College, Cuttack.	Lecturer (Temporary)	1 (likely to be two)	

Scale of Pay

Reader : 1200-50-1300-60-1900/-
Lecturer: 700-40-1100-50-1600/-

Age of Superannuation: 60 years

Essential Qualification

(a) Reader

The Reader shall have:

(i) A good academic record with a first or High Second Class Master's Degree in the subject. In cases of otherwise suitable qualified candidates, the High Second Class at M.A./M.Sc./M Com. may not be insisted upon.

(ii) A doctorate degree or published work of equivalent standard.

(iii) Independent published research work (in addition to the published work mentioned in (ii) above)

(iv) Teaching and research experience for eight years out of which at least five years should have been spent in regular teaching post-graduate/Hons. classes, Capacity to guide research shall be regarded as an additional qualification.

(b) Lecturer

The Lecturer shall have a good academic record with First or High Second Class Master's Degree in the subject. In cases of otherwise suitable qualified candidates, the High Second Class at M.A./M.Sc./M.Com. may not be insisted upon.

Desirable

Two years experience in teaching or/and M Phil or M Litt. or Pre-Doctoral degree candidates with a Ph D. in the subject will be preferred.

In case candidates without Ph.D. Degree are appointed, they shall be required to acquire the Ph.D. degree before completion of 5 years service.

(c) Lecturer in Law

(Whole-time & Part-time)

Law Graduate with 2nd Class LL.B. with 5 years practice at the Bar

OR

Law Graduate with 1st Class LL.B. with 3 years practice at the Bar.

OR

LL.M.(50% of marks)

Prescribed application forms can be had from the Registrar, Utkal University in person on payment of Rs. 7.49 including local sales tax (Rupees seven and paise fortynine) only or by post on receipt of a Crossed Indian Postal order for Rs. 9/- (Rupees nine) only payable to the Registrar, Utkal University, Vani *Vihar, Bhubaneswar-4.*

In case of candidates appointed from Government service, the University will bear the leave salary and Pension contribution for a period of two years only.

The University reserves to itself the right to decide the number of posts to be filled.

REGISTRAR

SAMBALPUR UNIVERSITY
JYOTI VIHAR: BURLA

Advertisement No. 18553/Estt-II
Dated the 3.9.79

Applications in the prescribed form *alongwith the attested copies of the* certificates and mark lists of all examinations passed are invited for the post of Workshop Superintendent in the scale of pay of Rs. 1200-50-1300-60-1900/- for University College of Engineering, Burla.

Qualifications

(i) Second class Bachelor's degree in Mechanical Engineering with Grade B+ or 55% marks

(ii) Master's degree in any branch of Mechanical Engineering.

Experience

Five years of experience in teaching and/or experience in workshop practice.

The post carries dearness allowance and C.P.F.-cum-Gratuity benefits as determined by the University from time to time.

The age of retirement is sixty years.

Those who have applied earlier in response to the Advertisement No. 12779/Estt-II dt. 6.6.79 need not apply again.

Seven copies of the application forms will be supplied from the University *office to each candidate* in person on cash payment of Rs. 10/- (Rupees ten) only. Candidates intending to receive forms by post are required to send (a) Crossed Postal Order of Rs. 10/- payable to the "FINANCE OFFICER, SAMBALPUR UNIVERSITY" (b) a self-addressed envelope (23 cm x 10 cm) with postage stamps worth Rs. 3.30 p. affixed to it with the words "APPLICATION FORMS FOR TEACHING *POSTS IN SAMBALPUR UNIVERSITY*" superscribed on it. Money Order/Cheque will not be accepted.

The last date for receipt of applications in the office of the University is **20.9 79**. The candidates will be required to appear for an interview before a Selection Committee at their own expense.

Issue of this advertisement does not make it binding on the University to make the appointment.

All communications should be addressed to the Registrar by designation only.

G. P. Guru
REGISTRAR

UNIVERSITY NEWS, SEPTEMBER 15, 1979. **Regd. No. R.N. 7180/62 Postal Regd. No.D(C)-534**

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Note : Also available in paperbacks in individual discipline

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Address enquiries to

Association of Indian Universities

Rouse Avenue, New Delhi-110002

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